

REMARKS

Claims 1-18 are pending in this application. By this Amendment, the specification and claims 1-18 are amended to correct minor informalities found therein. The amendments to, at least, claims 1-17 are non-narrowing as the amendments do not change the scope of claims 1-17. Also, the amendment to the specification properly places the section heading "Summary" at line 26, page 1 of the specification (see 37 C.F.R. §1.77(b)). No new matter is added. Reconsideration of the application is respectfully requested.

Applicants appreciate the courtesies shown to Applicants' representative by Examiner Pipala in the June 28, 2006 personal interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

In item 4a on the Office Action Summary, it is indicated that claims 14-18 are withdrawn from consideration. Applicants respectfully submit that the Office Action has made an error in indicating that claim 18 is withdrawn. In the Response to Election of Species Requirement filed December 30, 2005, Applicants provisionally elected species A, Fig. 1, claims 1-13 and 18. Accordingly, as agreed at the interview, item 4a on the Office Action Summary should indicate that claims 14-17 are withdrawn from consideration.

Claims 7-13 and 18 are rejected under 35 U.S.C. §112, second paragraph. The rejection is respectfully traversed.

With respect to claim 7, the phrase "using selectively or collectively" is not indefinite. As explained in the specification at page 10, lines 24-30, the final value is acquired by using selectively or collectively the estimate on the basis of the actual vehicle speed and the actual yaw rate but not of the actual steering angle and the estimate on the basis of the actual vehicle speed, the actual yaw rate, and the actual steering angle. Also, the accuracy of the estimation may be easily improved using selectively or collectively the two estimates rather than outputting the same one of the two estimates as fix (see e.g., page 10, lines 13-23).

Accordingly, the phrase "using selectively or collectively" is definite and one skilled in the art would understand that the final value can be estimated based on, for example, the actual vehicle speed and the actual yaw rate and can be, for example, estimated based on the actual vehicle speed, the actual yaw rate, and the actual steering angle. With respect to claim 18, line 7, the phrase "should make track" is amended to recite, "is tracking" to clarify that the present vehicle is tracking the preceding vehicle. For example, on page 24, lines 6-12 of the specification, the traveling of the vehicle is controlled by the inter-vehicle distance controller using the radar such that the present vehicle follows the preceding vehicle with a predetermined inter-vehicle distance. In other words, the present vehicle automatically makes track for the preceding vehicle by means of the inter-vehicle distance control. Thus, as agreed at the interview, the amendment to claim 18 overcomes the rejection. It is respectfully requested that the rejection be withdrawn.

Claims 1-13 and 18 are rejected under 35 U.S.C. §102(a) over JP A 2001-328451 to Takamasa et al. (Takamasa). The rejection is respectfully traversed.

Takamasa fails to disclose a curve's radius estimation device for estimating a curve's radius of a road on which a vehicle shall run, comprising a vehicle speed sensor detects an actual speed of the vehicle; a yaw rate sensor detects an actual yaw rate of the vehicle; a steering angle sensor detects an angle of a steering wheel handled by a driver of the vehicle as an actual steering angle; and an estimator estimates the curve's radius on the basis of the actual vehicle speed detected by the vehicle speed sensor, the actual yaw rate detected by the yaw rate sensor, and the actual steering angle detected by the steering angle sensor, as recited in claim 1.

Takamasa also fails to disclose a curve's radius estimation device for estimating a curve's radius of a road on which a vehicle shall run, comprising a vehicle speed sensor detects an actual speed of the vehicle; a yaw rate sensor detects an actual yaw rate of the

vehicle; a steering angle sensor detects an angle of a steering wheel handled by a driver of the vehicle as an actual steering angle; and an estimator estimates the curve's radius, the estimator comprising a first estimation part estimates the curve's radius on the basis of the actual vehicle speed and the actual yaw rate but not of the actual steering angle as a first estimate; a second estimation part for estimating the curve's radius on the basis of the actual vehicle speed, the actual yaw rate, and the actual steering angle as a second estimate; and a final value acquisition part acquires a final value of the estimate of the curve's radius using selectively or collectively those estimated first and second estimates, as recited in claim 7.

As discussed at the interview, the curve's radius estimation device of Takamasa does not correspond to Applicants' curve's radius estimation device as recited in claims 1 and 7. In Takamasa, the curve radius R1 is computed based on the vehicle speed and a steering angle or a yaw rate (Abstract). As Takamasa describes, the first curve radius R1 is computed based on the yaw rate ω obtained from the steering angle data acquired from the steering sensor 24, or the yaw rate sensor 26 (paragraph [0050]). But, Takamasa's curve radius computing part 16 does not compute a first curve radius R1 on the basis of both the actual yaw rate and the actual steering angle.

As discussed at the interview, Applicants describe the device of Takamasa in the background of the specification where it mentions that the conventional technique used by Takamasa for estimating the curve's radius is calculated by alternatively using a steering angle of a steering wheel handled by a driver of the vehicle and a yaw rate of it (page 1, lines 11-25 of the specification). That is, Takamasa estimates the radius of curvature of the road based on either the steering angle or the yaw rate.

However, as recited in claim 1 and similarly, in claim 7, an estimator estimates the curve's radius on the basis of the actual vehicle speed detected by the vehicle speed sensor, the actual yaw rate detected by the yaw rate sensor, and the actual steering angle detected by

the steering angle sensor. One of the advantages, for example, of estimating the curve's radius based on the actual angle and the actual yaw rate as recited in claims 1 and 7, is that it reduces errors in the estimation of the curve's radius due to the response delay of the actual yaw rate when it is used for the estimation of curve's radius of the road in which the vehicle shall run (see e.g., page 3, lines 27-31 of the specification).

Another advantage of claims 1 and 7, for example, is that during the transition state of the vehicle, the curve's radius can be estimated using the actual yaw rate taking into account the actual steering angle that can reflect more quickly a turning behavior of the vehicle than the actual yaw rate (page 4, lines 21-29 of the specification). Accordingly, the errors in the estimation of the curve's radius due to the response delay of the actual yaw rate can be easily reduced even though the yaw rate is used for such estimations (page 4, lines 30-33 of the specification).

Takamasa fails to achieve these features and advantages because Takamasa's curve radius device does not estimate the curve's radius of the road based on the actual yaw rate and the actual steering angle, as recited in claims 1 and 7. Accordingly, the curve's radius estimation device of Takamasa does not correspond to the curve's radius estimation device as recited in claims 1 and 7.

Thus, Takamasa does not disclose or suggest each and every feature of Applicants' claimed invention as recited in claims 1 and 7 and the rejection under 35 U.S.C. §102 is inappropriate.

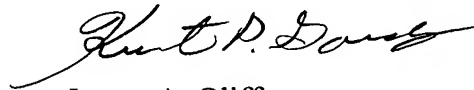
Because Takamasa does not anticipate or suggest the features of claims 1 and 7, Takamasa cannot anticipate or suggest the subject matter of claims 2-6 and 18, which depend from claim 1, and the subject matter of claims 8-13, which depend from claim 7, for at least the reasons discussed with respect to claims 1 and 7 and for the additional features recited therein. It is respectfully requested that the rejection be withdrawn.

With respect to withdrawn claims 14-17, claims 14 and 16 are also patentable over Takamasa for at least the reasons set forth above with respect to claims 1 and 7, as well as for the additional features recited therein. Claims 15 and 17 include features similar to those of claims 1 and 7, and are also patentable over Takamasa for at least the reasons set forth with respect to claims 1 and 7, as well as for the additional features recited therein. Therefore, rejoinder of claims 14-17 is requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-18 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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